

Appl. No. 10/087,856
Amdt dated Dec. 8, 2004
Reply to Office Action of Sep. 10, 2004

Amendments to the Claims:

This listing of the claims will replace all prior versions and listings in the application.

Listing of Claims:

1. (Canceled)
2. (Canceled)
3. (Canceled)
4. (Canceled)
5. (Canceled)
6. (Canceled)
7. (Canceled)
8. (Canceled)
9. (Canceled)
10. (Canceled)
11. (Canceled)

12. (Canceled)

13. (Canceled)

14. (Canceled)

15. (Currently amended) A method for treatment of an intervertebral disc, the disc ~~including~~ comprising a nucleus pulposus ~~bounded by and~~ an annulus fibrosus, said method comprising the steps of:

- i) inserting a first and a second ~~intradiscal lesioning~~ probe to respective spaced apart treatment sites for annulus fibrosus, each probe having an energy delivery means located at a distal end thereof, the distal ends being inserted to the treatment sites; and
- ii) delivering energy from an energy source through the energy delivery means ~~to the annulus fibrosus adjacent and between the treatment sites~~ such that said energy is focused between said energy delivery means.

16. (Currently amended) The method as claimed in claim 15 comprising a step of measuring ~~the impedance between the energy delivery means of the probes via an impedance monitor connected to the probes and~~ delivering the energy in response to the measured impedance.

17. (Currently amended) The method as claimed in claim 15 comprising a step of cooling the ~~distal end~~ energy delivery means of at least one ~~intradiscal lesioning~~ probe with a cooling means provided to ~~the said~~ at least one ~~intradiscal lesioning~~ probe.

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18. (Currently amended) The method as claimed in claim 15 wherein the step of inserting, comprises inserting at least one of the ~~intradiscal lesioning~~ probes through an ~~electrically insulated~~ introducer tube that is inserted to one of the treatment sites.

19. (Canceled)

20. (Canceled)

21. (New) The method as claimed in claim 15 comprising a step of measuring at least one of a temperature of a tissue located adjacent to said energy delivery means and a temperature of a tissue located at a distance from said energy delivery means.

22. (New) The method as claimed in claim 21 wherein temperature is measured using a temperature measuring device that is at least one of a thermistor, a thermocouple, a thermometer and an optic fluorescent sensor.

23. (New) The method as claimed in claim 15 wherein the step of delivering energy comprises delivering energy sufficient to cause a change in function of nerve structures in said intervertebral disc.

24. (New) The method as claimed in claim 15 wherein the step of delivering energy comprises delivering energy sufficient to modulate collagen.

25. (New) The method as claimed in claim 15 wherein the step of delivering energy comprises delivering energy sufficient to denature pain-causing enzymes.

26. (New) The method as claimed in claim 15 wherein said energy is at least one of radiofrequency energy, microwave energy, thermal energy and ultrasonic energy.

27. (New) The method as claimed in claim 15 wherein the step of delivering energy comprises delivering energy without raising the temperature of said annulus fibrosus above 42° C.

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28. (New) The method as claimed in claim 27 wherein said energy is delivered as a modified signal wave.

29. (New) The method as claimed in claim 15 comprising a step of measuring impedance at the distal end of at least one probe and determining at least one of:

a location of a tip of said distal end of at least one probe in said intervertebral disc;

a separation between said nucleus pulposus and said annulus fibrosus;

an identity and location of damage in said annulus fibrosus; and

a pathology of said intervertebral disc.

30. (New) The method as claimed in claim 17 wherein said cooling means comprises at least one of a contained flow of cooling fluid, expansion of compressed gas and thermoelectric cooling.

31. (New) The method as claimed in claim 18 comprising inserting said at least one probe to slidably engage a bore of said introducer tube.

32. (New) The method as claimed in claim 18 comprising determining a position of the distal end of the probe relative to said introducer tube.

33. (New) The method as claimed in claim 15 comprising a step of injecting radiopaque contrast solution into said nucleus pulposus.

34. (New) The method as claimed in claim 15 comprising a step of controlling a shape of a tip of at least one of the probes using an active shape controlling means.

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35. (New) The method as claimed in claim 38 wherein said active shape controlling means is at least one of a hydraulic device, a piezo-electric device, at least one solenoid and a mechanical actuator.

36. (New) The method as claimed in claim 15 comprising inserting said distal ends partially into said annulus fibrosus.